CLAIMS AMENDMENTS:

Claim 1 (Original): A process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction chamber, a substrate being located on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

positioning an insulating cover on the substrate-supporting electrode in tight contact with the substrate-supporting electrode; and

supplying a fluoride-based cleaning gas into the reaction chamber and generating a plasma in the reaction chamber.

Claim 2 (Original): The process of cleaning as set forth in claim 1, wherein the fluoride-based cleaning gas is one of NF_3, CF_4, C_3F_8, C_2F_6, and ClF_3.

Claim 3 (Original): The process of cleaning as set forth in claim 1, wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover on the substrate-supporting electrode, and applying a voltage to the substrate-supporting electrode.

Claim 4 (Original): A process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction chamber, with a substrate being placed on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

positioning an insulating cover on the substrate-supporting electrode;

supplying a fluoride-based cleaning gas into the reaction chamber, and supplying at least one of an inert gas and a fluorine-reducing gas into the reaction chamber from an approximate center of the substrate-supporting electrode through a gap between the insulating cover and the substrate-supporting electrode, a pressure in the gap being maintained to be higher than a pressure in the reaction chamber; and

generating a plasma in the reaction chamber.

Claim 5 (Original): The process of cleaning as set forth in claim 4, wherein the fluoride-based cleaning gas is one of NF_3, CF_4, C_3F_8, C_2F_6, and ClF_3.

Claim 6 (Original): The process of cleaning as set forth in claim 4, wherein the fluorine-reducing gas is H_2 or NH_3.

Claim 7 (Original): The process of cleaning as set forth in claim 4, wherein the inert gas is He gas.

Claim 8 (Original): A process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction chamber, with a substrate being placed on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

positioning an insulating cover on the substrate-supporting electrode;

supplying a fluoride-based cleaning gas into the reaction chamber and then generating a plasma in the reaction chamber;

removing the insulating cover from the substrate-supporting electrode to expose a surface of the substrate-supporting electrode; and

supplying a fluorine-reducing gas into the reaction chamber and generating a plasma.

Claim 9 (Original): The process of cleaning as set forth in claim 8, wherein the fluoride-based cleaning gas is one of NF_3, CF_4, C_3F_8, C_2F_6, and ClF_3.

Claim 10 (Original): The process of cleaning as set forth in claim 8, wherein the fluorine-reducing gas is H_2 or NH_3.

Claim 11 (Original): A process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction

chamber, with a substrate being placed on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

positioning an insulating cover on the substrate-supporting electrode;

supplying a fluoride-based cleaning gas into the reaction chamber and generating a plasma in the reaction chamber;

supplying a fluorine-reducing gas into the reaction chamber and then generating a plasma;

removing the insulating cover from the substrate-supporting electrode to expose a surface of the substrate-supporting electrode; and

forming a silicon oxide film containing an excessive amount of silicon on the surface of the substrate-supporting electrode.

Claim 12 (Original): The process of cleaning as set forth in claim 11, wherein the fluoride-based cleaning gas is one of NF_3, CF_4, C_3F_8, C_2F_6, and ClF_3.

Claim 13 (Original): The process of cleaning as set forth in claim 11, wherein the fluorine-reducing gas is H_2 or NH_3.

Claim 14 (Original): A process of cleaning a semiconductor manufacturing system having a reaction chamber and a substrate-supporting electrode provided inside the reaction chamber, with a substrate being placed on the substrate-supporting electrode when forming a semiconductor film on the substrate, the process comprising:

supplying hydrogen gas and an inert gas into the reaction chamber and generating a plasma when the semiconductor manufacturing system is in a standby condition before loading the substrate into the reaction chamber.

Claim 15 (Original): The process of cleaning as set forth in claim 14, wherein the inert gas is Ar gas or He gas.

Claim 16 (Original): The process of cleaning as set forth in claim 14, further comprising generating a plasma with the substrate-supporting electrode immediately before loading the substrate into the reaction chamber.

Claim 17 (Original): The process of cleaning as set forth in claim 16, wherein the plasma is generated with the substrate-supporting electrode at an output power of 100-200W.

Claim 18 (Currently amended): A method of manufacturing a semiconductor device comprising:

carrying out a cleaning process according to ~~any one of~~ claims 1 ~~to 17~~;

setting the substrate on the substrate-supporting electrode in the reaction chamber;

supplying a raw material gas into the reaction chamber; and

generating a plasma to form a semiconductor film on the substrate.

Claim 19 (Original): The process of cleaning as set forth in claim 1, wherein the positioning of the insulating cover in tight contact with the substrate-supporting electrode comprises placing the insulating cover on the substrate-supporting electrode, and clamping the insulating cover to the substrate-supporting electrode by a mechanical element.